Arizona State Senate
Issue Brief

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Note to Reader:

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HIGH OCCUPANCY VEHICLE LANE USAGE: Alternative Fuel and Hybrid Vehicles

INTRODUCTION

High occupancy vehicle (HOV) lanes are intended to maximize the person-carrying capacity of the roadway. In general, the definition of an HOV includes buses, public transportation vehicles, motorcycles, vanpools and carpools of two or more people.

HISTORY AND OVERVIEW

HOV lanes increase the total number of people moved through a congested corridor by offering two kinds of travel incentives: 1) travel time savings and 2) reliable and predictable travel time. This, in turn, can increase the person-movement capacity of the roadway by carrying more people in fewer vehicles.

Under the federal Clean Air Act, states are required to submit a State Implementation Plan (SIP) to provide for the attainment of federal air quality standards in areas that do not meet the standards, which are also known as nonattainment areas. The Phoenix area has been designated as a nonattainment area by the U.S. Environmental Protection Agency (EPA).

The federal Transportation Equity Act for the 21st Century (TEA-21), enacted in 1998, provides policy level guidance related to HOV lanes as well as establishing specific program requirements. TEA-21 allows construction of HOV lanes on freeways in nonattainment areas.

The Federal Highway Administration (FHWA) requires federal funds used to acquire the right-of-way, design or construct HOV lanes to be repaid before any significant changes can be made to the operation of an HOV lane or any conversion of an HOV lane to a general purpose lane. Therefore, by accepting federal-aid funding, states are agreeing to manage, operate and maintain HOV lanes according to federal guidelines. A review of proposals to change the original design concept, scope or operation

of an HOV lane is needed to determine if federal approval is required or if any other actions are necessary before the proposed changes occur.

ARIZONA HOV USAGE

Implementation of HOV lanes in Arizona began with construction of the Interstate 10 Loop in 1983. According to the Arizona Department of Transportation (ADOT), approximately $200 million in federal funds were spent on the construction of HOV lanes on Interstates 10 and 17.

In Maricopa County, the Maricopa Association of Governments (MAG), an organization that provides a regional forum for analysis, discussion and resolution of issues relating to transportation, air quality and regional development, produces a Regional Transportation Plan (RTP) that provides a broad vision for Arizona's transportation system for the next two decades. MAG's 2007 RTP calls for new HOV lanes on Interstates 10 and 17, Loops 101 and 202, State Routes 51 and 85, as well as on US 60. The amount identified in the RTP for both additional general purpose lanes and HOV lanes totals over $4.4 billion.

There are currently no HOV lanes outside of Maricopa County.

Alternative Fuel Vehicles

In 1994, legislation was enacted in Arizona authorizing single occupant alternative fuel vehicles to use HOV lanes, which, while not specifically authorized by federal law, was not prohibited. The statutory definition of alternative fuel vehicle includes vehicles that are powered 100 percent on alternative fuel sources, such as electricity, hydrogen, natural gas or propane. The only exception to this definition is a vehicle that uses a minimum of 70 percent alternative fuel and a maximum of 30 percent petroleum-based fuel, and qualifies as a federal low emission vehicle.

Hybrid Vehicles

In 2001, Arizona further amended statutes governing the use of HOV lanes to allow hybrid vehicles to use HOV lanes regardless of the number of people in the vehicle, subject to the approval of the FHWA. Based on the passage of the 2001 legislation, Arizona made an official request to the FHWA, which was denied. In a December 21, 2001, response, the FHWA determined that hybrid vehicles do not meet the applicable federal requirements to use the HOV lanes. Title 23, United States Code, Section 102 (a)(2) authorizes states to allow inherently low emission vehicles (ILEVs) to use the HOV lanes. However, the FHWA noted that to date no hybrid vehicles have been certified by the EPA as meeting the emissions requirements established for ILEV classification, because their engines have fuel vapor emissions.

In August 2005, President George W. Bush signed the federal Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2005 (SAFETEA). SAFETEA provides states with the option to allow hybrid vehicles to use HOV lanes if the state establishes a method of marking the vehicles, monitoring and reporting on performance and ensuring that the program does not degrade the performance of HOV lanes. The EPA is required to establish rules and guidelines for hybrid vehicles to qualify for HOV lane usage; however, the EPA's deadline has passed and no rules have emerged. ADOT reports that it is working with the FHWA to determine what needs to be accomplished in Arizona in order to implement this option once the EPA adopts the rules.

In September of 2006, Governor Napolitano issued an executive order requiring ADOT, in consultation with the Arizona Department of Environmental Quality, to implement a pilot program allowing designated hybrid vehicles to drive in HOV lanes. Based on an HOV lane capacity analysis conducted by ADOT, it was determined that the list of eligible hybrids should be limited to a small number (no more than 10,000) of the most fuel efficient vehicles. Utilizing information from the U.S. Department of Energy and the EPA, ADOT determined the most eligible vehicles to be the Honda Insight, Toyota Prius and the Honda Civic Hybrid. Individuals with eligible vehicles who choose to

participate in the pilot program are issued a special Alternative Fuel license plate affixed with a hybrid decal that permits the operator to drive in any HOV lane in Arizona. According to ADOT, when the EPA finalizes its rules governing the use of HOV lanes by hybrid vehicles, ADOT will revise the eligibility criteria if necessary.

ADDITIONAL RESOURCES

- Arizona Department of Transportation
  602-712-7227
  www.dot.state.az.us
- Federal Highway Administration
  www.FHWA.dot.gov
- EPA list of vehicles certified as ILEVs:
  www.epa.gov/autoemissions
- Maricopa Association of Governments
  2007 Regional Transportation Plan
  www.mag.maricopa.gov
- Arizona Department of Transportation
  Motor Vehicle Division
  2007 HOV Pilot Program
  http://www.azdot.gov/mvd/vehicle/EnergyEfficient.asp